

Caserones project moving to feasibility study stage

Pan Pacific Copper Co., Ltd. (PPC) jointly owned by Nippon Mining & Metals Co., Ltd. and Mitsui Mining & Smelting Co., Ltd., has been conducting a pre-feasibility study, including economic evaluation based on exploratory drillings and conceptual engineering based on several scenarios, since the acquisition of the mining concession of the Caserones copper deposit in May, 2006. PPC has decided to move the project into the feasibility study (“FS”) stage on the basis of the results.

The project initially assumed a development plan to produce refined copper through the SX-EW process, which was designed for processing of copper oxide ore and secondary copper sulfide. However, the finding of abundant resources of primary copper sulfide ore containing molybdenum required a re-evaluation of the processes, the investment amount, production scale, and other factors. The result of the re-evaluation has shown the economic potentiality of investment in the case of combined production of copper concentrates and molybdenum concentrates and refined copper through the SX-EW process.

The FS, starting this month, will improve the accuracy of the final resource estimation, provide basic design of facilities and an estimate of the development costs, to enable a final decision on full-scale development to be made. The FS will include a detailed financial plan for the project.

At present, this project is estimated to have 26 years of mine life and to produce a total of 3,600,000 tons (150,000 tons per annum) of copper and 75,000 tons of molybdenum, with an estimated initial investment of 1.7 billion US dollars.

The copper concentrate to be produced in this project will be shipped to the smelters of the PPC group. This will increase PPC’s ratio of equity volume of copper concentrates and secure stable supply of raw materials for its smelting operations.

PPC will also conduct a pre-feasibility study on the Quechua copper deposit development project in Peru, in parallel with the Caserones project. PPC is actively engaged in the acquisition of concessions of promising mining projects and exploration activities.

Outlines of the Caserones copper deposit development project

1. Outlines of the FS

- (1) Period: from September 2008 to December 2009
- (2) Contents: additional exploratory drillings , resource estimation, basic engineering of facilities, estimation of investment costs, governmental approvals on development and environmental impacts, additional acquisition of water rights, and others
- (3) Expenditure: approximately ¥ 9 billion

2. Outline of the project (estimated)

- (1) Construction of mine and production facilities: from January 2010 to August 2012
- (2) Commencement of operation:
 - a. Production of refined copper through the SX-EW process in January 2012
 - b. Production of copper concentrates and molybdenum concentrates in September 2012
- (3) Mine life: 26 years (until 2037)
- (4) Operation flow of production:

Production of copper and molybdenum concentrates

Open-pit mining → Crushing and grinding → Flotation, dewatering → shipping

Production of refined copper through SX-EW process

Open-pit mining → Dump-leaching → SX-EW → shipping

- (5) Estimated volume of reserves to be mined

Ore	Volume (million tons)	Grade	
		Copper (%)	Molybdenum (ppm)
Primary and secondary copper sulfide ore For production of copper and molybdenum concentrates	1,070	0.34	106
Copper oxide and secondary copper sulfide ore For production of refined copper through the SX-EW process	280	0.30	-

- (6) Daily throughput of ore: approximately 80,000 tons (approximately 125,000 tons from 2016)

- (7) Estimated annual production volume:

Copper: copper content in copper concentrate: approx. 130,000 tons

Refined copper produced through the SX-EW process: approx. 20,000 tons

Total approx. 150,000 tons

(Total production for mine life: approx. 3,600,000 tons)

Molybdenum: approx. 3,000 tons (Total production for mine life: approx 75,000 tons)

- (8) Estimated initial investment: 1.7 billion US dollars

3. Location of the Caserones copper deposit

162 kilometers southeast of Copiapó, the capital of the III Atacama Region of Chile, and 15 kilometers from the border with Argentina. The deposit lies at altitudes between 4,200m to 4,600m